SYSTEM AND METHOD FOR RETIRING APPROXIMATELY SIMULTANEOUSLY A GROUP OF INSTRUCTIONS IN A SUPERSCALAR MICROPROCESSOR

ABSTRACT OF THE DISCLOSURE

An system and method for retiring instructions in a superscalar microprocessor which executes a program comprising a set of instructions having a predetermined program order, the retirement system for simultaneously retiring groups of instructions executed in or out of order by the microprocessor. The retirement system comprises a done block for monitoring the status of the instructions to determine which instruction or group of instructions have been executed, a retirement control block for determining whether each executed instruction is retirable, a temporary buffer for storing results of instructions executed out of program order, and a register array for storing retirable-instruction results. In addition, the retirement control block further controls the retiring of a group of instructions determined to be retirable, by simultaneously transferring their results from the temporary buffer to the register array, and retires instructions executed in order by storing their results directly in the register array. The method comprises the steps of monitoring the status of the instructions to determine which group of instructions have been executed, determining whether each executed instruction is retirable, storing results of instructions executed out of program order in a temporary buffer, storing retirable-instruction results in a register array and retiring a group of retirable instructions by simultaneously transferring their results from the temporary buffer to the register array, and retiring instructions executed in order by storing their results directly in the register array.

::ODMA\MHODMA\SKGF_DC1;16235;1